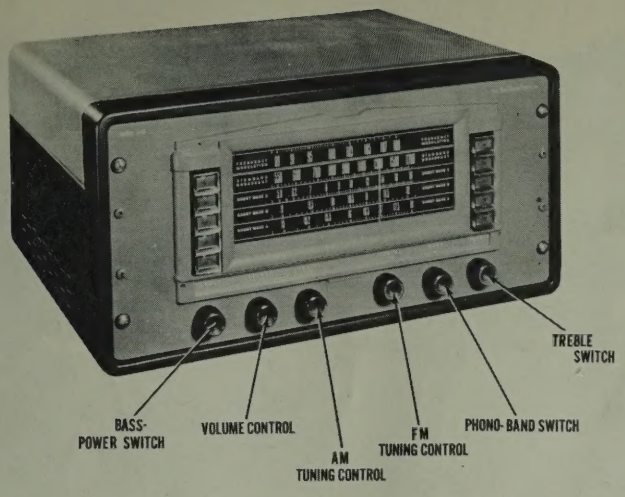
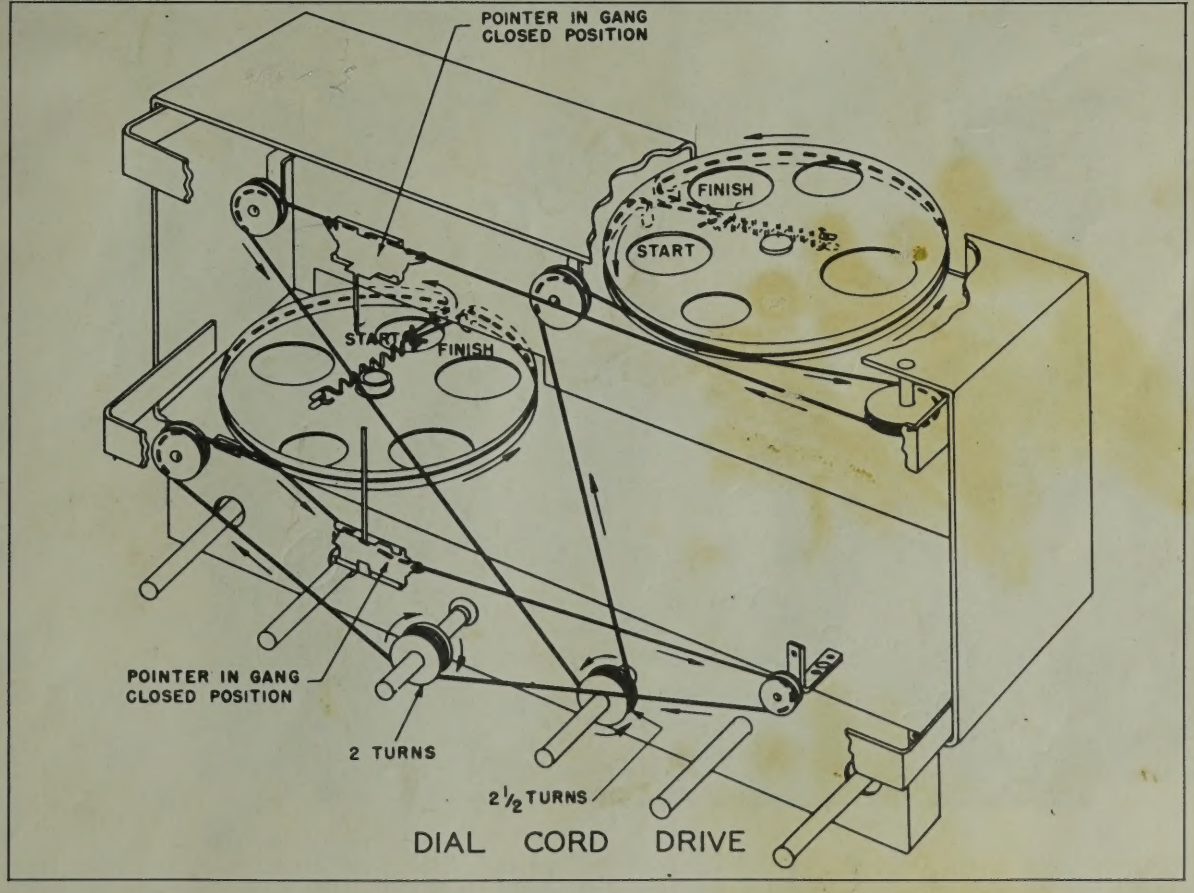


HALLICRAFTERS MODEL S-47

TRADE NAME	Hallicrafters, S-47
MANUFACTURER	Hallicrafters Co., 5th & Kostner Avenues, Chicago 24, Ill.
TYPE SET	AC Operated Multi-Band AM-FM Superheterodyne Receiver
TUBES (FIFTEEN)	Types, 6BA6 RF Amp., 6BE6 Mixer, 6J6 Osc.-AFC, 6SG7 1st IF Amp., 6SG7 2nd IF Amp., 6SG7 FM 3rd IF-AM Det., 6SH7 FM Limiter, 6AL5 FM Det., 6J5 1st AF Amp., 6J5 2nd AF Amp., 6SQ7 3rd AF Amp., 6SQ7 Phase Inv., (2) 6V6GT Power Output, 5U4G Rectifier.
POWER SUPPLY	105-125 Volts AC RATING 1.4 Amp. @ 117 Volts AC
TUNING RANGE-BROADCAST	540-1700KC SHORT WAVE-Band "A" 15-18MC, Band "B" 9-12MC, Band "C" 5.8-18MC FREQ. MOD. 88-108MC

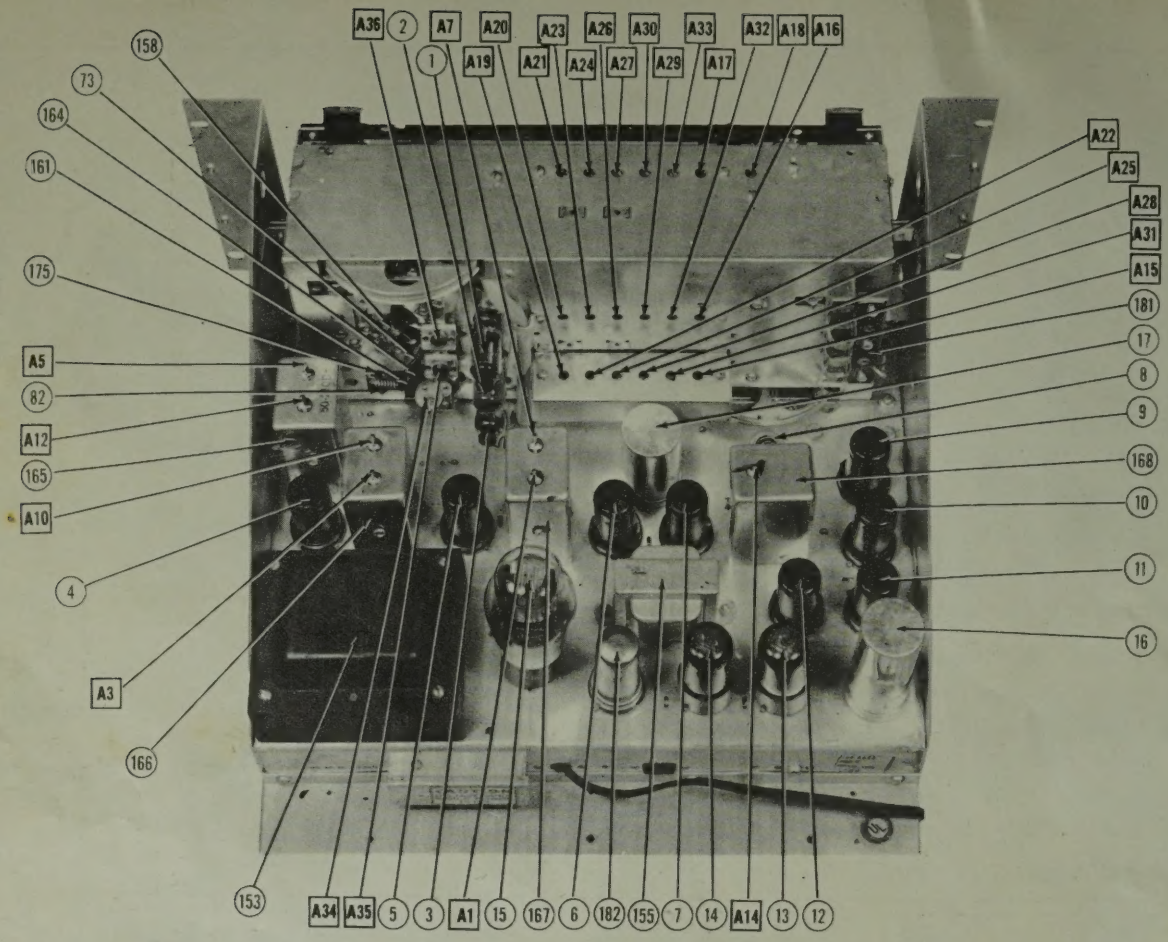


DIAL CORD DRIVE

HALLICRAFTERS MODEL
S-47

HOWARD W. SAMS & CO., INC. • 2924 East Washington Street • Indianapolis 7, Indiana

DATE 9/48-#4816-12 SET #46-FOLDER #12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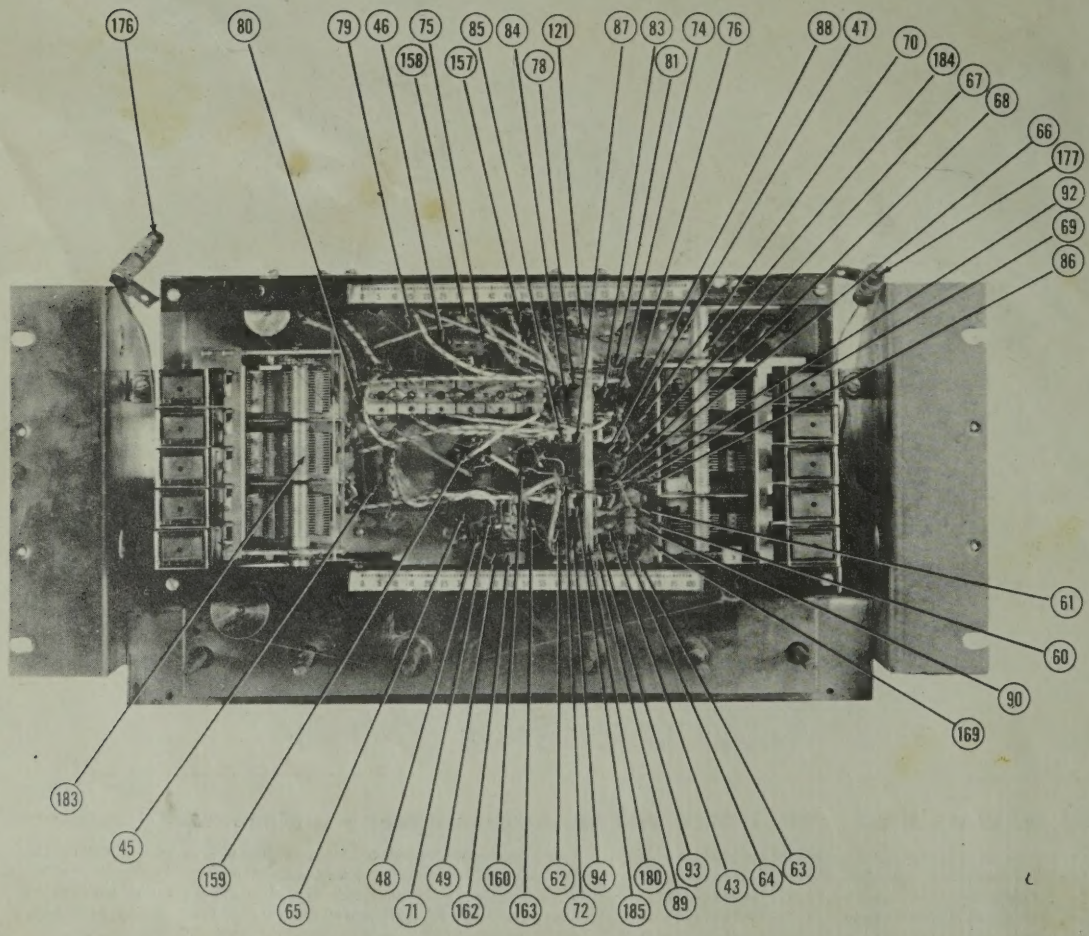
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PARTS LIST AND DESCRIPTIONS

TUBES (SYLVANIA or Equivalent)

ITEM No.	USE	REPLACEMENT DATA: HALLICRAFTERS PART No.	REPLACEMENT DATA: STANDARD REPLACEMENT	RMA BASE TYPE	INSTALLATION NOTES
1	RF Amp.	6BA6	6BA6	7BK	
2	Mixer	6BE6	6BE6	7CH	
3	Osc.-AFC	6J6	6J6	7BF	
4	1st IF Amp.	6SG7	6SG7	8BK	
5	2nd IF Amp.	6SG7	6SG7	8BK	
6	FM 3rd IF-AM Det.	6SG7	6SG7	8BK	
7	FM Limiter	6SH7	6SH7	8BK	
8	FM Det.	6AL5	6AL5	6BT	
9	1st AF Amp.	6J5	6J5	6Q	
10	2nd AF Amp.	6J5	6J5	6Q	
11	3rd AF Amp.	6SQ7	6SQ7	8Q	
12	Phase Inv.	6SQ7	6SQ7	8Q	
13	Power Output	6V6GT	6V6GT	7AC	
14	" "	6V6GT	6V6GT	7AC	
15	Rectifier	5U4G	5U4G	5T	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING: CAP.	RATING: VOLT	REPLACEMENT DATA: HALLICRAFTERS PART No.	REPLACEMENT DATA: AEROVOX PART No.	REPLACEMENT DATA: CORNELL-DUBILIER PART No.	REPLACEMENT DATA: SOLAR PART No.	REPLACEMENT DATA: SPRAGUE PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
16A	60	475	45B049		UP9DJ53‡			■ Filter
B	20	475						▲ "
C	20	20						Cathode Bypass
17A	40	450	45B100	AF86J4A†	UP9DJ53†	DY-315		■ Filter
B	10	450						▲ Decoupling
C	20	30						Cathode Bypass
18	.01	600	46AG103J	684-01	DT6S1	MPH-6-01	TC-11	Line Filter
19	.05	600	46AY503F	684-05	DT6S5	ST-6-05	TC-15	Audio Coupling
20	.01	600	46AG103F	684-01	DT6S1	ST-6-01	TC-11	" "
21	.01	600	46AG103F	684-01	DT6S1	ST-6-01	TC-11	RF Bypass Pwr. Supply
22	.01	600	46AG103F	684-01	DT6S1	ST-6-01	TC-11	Tone Compensation
23	.05	600	46AY503F	684-05	DT6S5	ST-6-05	TC-15	Audio Coupling
24	.1	200	46AU104H	484-.1	DT4P1	ST-4-.1	TC-1	Tone Compensation
25	.01	600	46AG103F	684-01	DT6S1	ST-6-01	TC-11	Audio Coupling
26	.003	600	46AZ302J	684-003	DT6D3	ST-6-003	TC-23	" "
27	.005	600	46AZ502F	684-005	DT6D5	ST-6-005	TC-25	Tone Compensation
28	.01	600	46AG103F	684-01	DT6S1	ST-6-01	TC-11	" "
29	.01	600	46AG103F	684-01	DT6S1	ST-6-01	TC-11	AVC Filter
30	.05	600	46AY503F	684-05	DT6S5	ST-6-05	TC-15	Diode Load Cap.
31	.05	600	46AY503F	684-05	DT6S5	ST-6-05	TC-15	" " "
32	.05	600	46AY503F	684-05	DT6S5	ST-6-05	TC-15	4th IF Plate Decoup.
33	.01	600	46AG103F	684-01	DT6S1	ST-6-01	TC-11	3rd IF Screen Bypass
34	.01	600	46AG103F	684-01	DT6S1	ST-6-01	TC-11	3rd IF Plate Decoup.
35	.01	600	46AG103F	684-01	DT6S1	ST-6-01	TC-11	3rd IF Plate Decoup.
36	.01	600	46AG103F	684-01	DT6S1	ST-6-01	TC-11	2nd IF Screen Bypass
37	.01	600	46AG103F	684-01	DT6S1	ST-6-01	TC-11	2nd IF Cathode Bypass
38	.01	600	46AG103F	684-01	DT6S1	ST-6-01	TC-11	2nd IF Plate Decoup.
39	.01	600	46AG103F	684-01	DT6S1	ST-6-01	TC-11	2nd IF Grid Filter
40	.01	600	46AG103F	684-01	DT6S1	ST-6-01	TC-11	1st IF Plate Decoup.
41	.01	600	46AG103F	684-01	DT6S1	ST-6-01	TC-11	1st IF Screen Bypass
42	.01	600	46AG103F	684-01	DT6S1	ST-6-01	TC-11	AVC Filter
43	.01	600	46AG103F	684-01	DT6S1	ST-6-01	TC-11	Mixer Plate Decoup.
44	.02	600	46AY203F	684-02	DT6S2	ST-6-02	TC-12	" " "
45	.05	600	46AY503F	684-05	DT6S5	ST-6-05	TC-15	AVC Filter
46	.02	600	46AY203F	684-02	DT6S2	ST-6-02	TC-12	" "
47	.01	600	46AG103F	684-01	DT6S1	ST-6-01	TC-11	Decoupling
48	.01	600	46AG103F	684-01	DT6S1	ST-6-01	TC-11	Mixer Screen Bypass
49	.02	600	46AY203F	684-02	DT6S2	ST-6-02	TC-12	AFC Filter
50	.02	600	46AY203F	684-02	DT6S2	ST-6-02	TC-12	Tone Compensation
51	.01	600	46AG103F	684-01	DT6S1	ST-6-01	TC-11	Filament Bypass
52	220	500	CM20A221M	1468-0002	5W5T2	MO.5-325	1FM-325	AF Plate Bypass
53	330	500	CM20A331M	1468-00035	5W5T3	MO.5-33	1FM-33	Tone Compensation
54	22	500	CM20A220K	1468-000025	5W5Q2	MO.5-425	MS-42	" "
55	100	500	CM20A101M	1468-0001	5W5T1	MO.5-31	1FM-31	RF Bypass
56	1000	300	CM30A102M	1468-001	1W5D1	MO.5-21	1FM-21	De-emphasis
57	47	500	CM20A470M	1468-00005	5W5Q5	MO.5-45	1FM-45	IF Coupling
58	220	500	CM20A221M	1468-0002	5W5T2	MO.5-325	1FM-325	Diode RF Filter

PARTS LIST AND DESCRIPTIONS (Continued)

RESISTORS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: HALLICRAFTERS PART No.	REPLACEMENT DATA: IRC PART No.	IDENTIFICATION CODES
110	10KΩ	2	RC40AE103M	BT-2-10K	Br.-Blk.-Or. Voltage Dropping
111	10KΩ	2	RC40AE103M	BT-2-10K	Br.-Blk.-Or. " "
112	150Ω	½	RC20AE151M		Br.-Grn.-Br. Osc. Cathode
113	220Ω	½	RC20AE221M		Red-Red-Br. 3rd IF Cathode
114	47KΩ	1	RC30AE473M	BTA-47K	Yl.-Vi.-Or. 3rd IF Screen Dropping
115	3300Ω	½	RC20AE333M	BTS-3300	Or.-Or.-Red 3rd IF Plate Load
116	100KΩ	½	RC20AE104M	BTS-100K	Br.-Blk.-Yl. 4th IF Grid
117	100KΩ	½	RC20AE104M	BTS-100K	Br.-Blk.-Yl. 4th IF Screen Dropping
118	100KΩ	½	RC20AE104M	BTS-100K	Br.-Blk.-Yl. Ratio Det. Diode Load
119	100KΩ	½	RC20AE104M	BTS-100K	Br.-Blk.-Yl. " " " "
120	10KΩ	½	RC20AE103M	BTS-10K	Br.-Blk.-Or. De-emphasis
121	1 Meg.	½	RC20AE105M	BTS-1 Meg.	Br.-Blk.-Grn. AFC Network
122	33Ω	½	RC20AE330M	BW-½-33	Or.-Or.-Blk. Feedback
123	1000Ω	½	RC20AE102M	BTS-1000	Br.-Blk.-Red "
124	100KΩ	½	RC20AE104M	BTS-100K	Br.-Blk.-Yl. Tone Comp.
125	220KΩ	½	RC20AE224M	BTS-220K	Red-Red-Yl. 2nd AF Grid
126	4700Ω	½	RC20AE472M	BTS-4700	Yl.-Vi.-Red Tone Comp.
127	33KΩ	½	RC20AE333M	BTS-33K	Or.-Or.-Or. 1st AF Plate Load
128	3300Ω	½	RC20AE332M	BTS-3300	Or.-Or.-Red 2nd AF Plate Load
129	33KΩ	½	RC20AE333M	BTS-33K	Or.-Or.-Or. Tone Comp.
130	390KΩ	½	NC20AE394K	BTS-390K	Or.-Wh.-Yl. 3rd AF Grid
131	22KΩ	½	RC20AE223M	BTS-22K	Red-Red-Or. Tone Comp.
132	47KΩ	½	RC20AE473M	BTS-47K	Yl.-Vi.-Or. " "
133	220Ω	½	RC20AE221M	BW-½-220	Red-Red-Br. Cathode Bias Network
134	100KΩ	½	RC20AE104M	BTS-100K	Br.-Blk.-Grn. 3rd AF Grid
135	100Ω	½	RC20AE101K	BW-½-100	Br.-Blk.-Br. Feedback
136	470Ω	½	RC20AE471M	BTS-470	Yl.-Vi.-Br. Cathode Bias Network
137	470KΩ	½	RC20AE474M	BTS-470K	Yl.-Vi.-Yl. 3rd AF Plate Load
138	3900Ω	½	RC20AE392K	BTS-3900	Or.-Wh.-Red Phase Inverter Cathode
139	100KΩ	½	RC20AE104M	BTS-100K	Br.-Blk.-Yl. Phase Inverter Grid
140	220KΩ	½	RC20AE224M	BTS-220K	Red-Red-Yl. Phase Inverter Plate Load
141	330KΩ	½	RC20AE334M	BTS-330K	Or.-Or.-Yl. Output Grid
142	470KΩ	½	RC20AE474M	BTS-470K	Yl.-Vi.-Yl. " "
143	330Ω	5	24A864	AB-300	Or.-Or.-Br. Output Cathode
144	470Ω	2	RC40AE471M	BT-2-470	Yl.-Vi.-Br. Tone Compensation
145	330Ω	5	24A864	AB-300	Or.-Or.-Br. Filter
146	12KΩ	½	RC20AE123K	BTS-12K	Br.-Red-Or. Feedback
147	50Ω	4	RC65CE470M	AB-50	Grn.-Blk.-Blk. Voltage Dropping
148	22KΩ	1	RC30AE223M	BTA-22K	Red-Red-Or. Decoupling
149	820KΩ	½	RC20AE821K	BTS-820K	Gray-Red-Yl. Tone Comp.
150	68KΩ	½	RC20AE683K	BTS-68K	Blue-Gray-Or. Bleeder
151	10KΩ	½	RC20AE103M	BTS-10K	Br.-Blk.-Or. Tone Comp.
152	330KΩ	½	RC20AE334M	BTS-330K	Or.-Or.-Yl. Phono Shunt

TRANSFORMER (POWER)

ITEM No.	RATING: PRI.	RATING: SEC. 1	RATING: SEC. 2	RATING: SEC. 3	REPLACEMENT DATA: HALLICRAFTERS PART No.	REPLACEMENT DATA: STANCOR PART No.	REPLACEMENT DATA: THORDARSON PART No.	REPLACEMENT DATA: MERIT PART No.
153	117V AC @ 1.4A	780V CT .175A DC	5.2V AC @ 3.0A	6.4V AC @ 3.0A	52C151	P-6165	T22R07	P-2955

TONE CHOKE

ITEM NO.	RATINGS: TOTAL DIRECT CURRENT	RATINGS: D. C. RESISTANCE	RATINGS: INDUCTANCE (0 CURRENT 1000 ↘)	REPLACEMENT DATA: HALLICRAFT. PART NO.	REPLACEMENT DATA: STANCOR PART NO.	REPLACEMENT DATA: THORDARSON PART NO.	REPLACEMENT DATA: MERIT PART No.	INSTALLATION NOTES
154	4.5MA	650Ω	12.5 Henries	56B082				

TRANSFORMER (OUTPUT)

ITEM No.	RATING: IMPEDANCE PRI.	RATING: IMPEDANCE SEC.	RATING: DC RES. PRI.	RATING: DC RES. SEC.	REPLACEMENT DATA: HALLICRAFT. PART No.	REPLACEMENT DATA: STANCOR PART No.	REPLACEMENT DATA: THORDAR'N PART No.	REPLACEMENT DATA: MERIT PART No.	INSTALLATION NOTES
155	7000Ω CT	500Ω CT	400Ω	31Ω	55B096		T-22S68*		*Drill new mounting holes.

PARTS LIST AND DESCRIPTIONS (Continued)

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING		REPLACEMENT DATA					IDENTIFICATION CODES AND INSTALLATION NOTES
	CAP.	VOLT	HALLICRAFTERS PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	SOLAR PART No.	SPRAGUE PART No.	
59	220	500	CM20A221M	1468-0002	5W5T2	MO.5-325	1FM-325	" " "
60	10	500	47A149	1468-00001	5W5Q1	MO.5-41	MS-41	RF Coupling-Cer.
61	10000	300	47B32103N1	1467-01	1D3S1	MW.3-11	1FM-11	Osc. Cathode Bypass-Cer.
62	47	500	CM20A470M	1468-00005	5W5Q5	MO.5-45	1FM-45	AFC Filter
63	500	300	47A147	1468-0005	5W5T5	MO.5-35	1FM-35	Osc. Feedback-Cer.
64	1000	300	47A148	1468-001	1W5D1	MO.3-21	1FM-21	Osc. Decoupling-Cer.
65	3900	300	CM35A392J					Fixed Pad
66	47	500	47A150	1468-00005	5W5Q5	MO.5-45	1FM-45	Osc. Grid Cap.-Cer.
67	10	500	CM20A100K	1468-00001	5W5Q1	MO.5-41	MS-41	Mixer Plate Bypass
68	1000	300	47A148	1468-001	1W5D1	MW.5-21	1FM-21	Mixer Screen Bypass-Cer.
69	47	500	47A150	1468-00005	5W5Q5	MO.5-45	1FM-45	Osc. Coupling-Cer.
70	500	300	47A147	1468-0005	5W5T5	MO.5-35	1FM-35	RF Plate Decoup.-Cer.
71	39	500	CC30SK390M					Fixed Pad-Cer.
72	1.5	500	47A160-3					Osc. Feedback-Cer.
73	22	500	CM20A220K					Fixed Trimmer-Silver
74	1000	300	47A148	1468-001	1W5D1	MW.5-21	1FM-21	RF Screen Bypass-Cer.
75	100	500	CM20A101M	1468-0001	5W5T1	MOS.5-31	1FM-31	Fixed Trimmer
76	47	500	CM20A470M	1468-00005	5W5Q5	MO.5-45	1FM-45	RF Coupling
185	1000	300	47A148	1468-001	1W5D1	MW.5-21	1FM-21	Fil. Bypass-Cer.
186	.01	600	46AG103F	684-01	DT6S1	ST-6-01	TC-11	Fil. Bypass

†Omit one section.
‡Parallel sections to obtain desired capacity.

CONTROLS

ITEM No.	RATING		REPLACEMENT DATA			INSTALLATION NOTES
	RESISTANCE	WATTS	HALLICRAFTERS PART No.	IRC PART No.	CLAROSTAT PART No.	
77A	2 Meg.	½	25A685	D13-139	M-66-Z	Volume Control
B	Shaft		Not Req.	A	Not Req.	Attach to 77A per instructions

RESISTORS

ITEM No.	RATING		REPLACEMENT DATA		IDENTIFICATION CODES
	RESISTANCE	WATTS	HALLICRAFTERS PART No.	IRC PART No.	
78	1 Meg.	½	RC20AE105M	BTS-1 Meg.	Br.-Blk.-Grn. RF Grid
79	100KΩ	½	RC20AE104M	BTS-100K	Br.-Blk.-Yl. AVC Network
80	100KΩ	½	RC20AE104M	BTS-100K	Br.-Blk.-Yl. " "
81	100Ω	½	RC20AE333M		Br.-Blk.-Grn. RF Cathode
82	10Ω	½	RC20AE100M		Br.-Blk.-Blk. Parasitic Suppressor
83	33KΩ	1	RC30AE333M	BTA-33K	Or.-Or.-Or. RF Screen Dropping
84	1000Ω	½	RC20AE102M	BTS-1000	Br.-Blk.-Red Decoupling
85	1 Meg.	½	RC20AE105M	BTS-1 Meg.	Br.-Blk.-Grn. Conv. Grid
86	22KΩ	½	RC20AE223M	BTS-22K	Red-Red-Or. Mixer Injector Grid
87	10Ω	½	RC20AE100M		Br.-Blk.-Blk. Parasitic Suppressor
88	33KΩ	2	RC40AE333K	BT-2-33K	Or.-Or.-Or. Converter Screen Dropping
89	1000Ω	½	RC20AE102M	BTS-1000	Br.-Blk.-Red Converter Plate Decoupling
90	1000Ω	½	RC20AE102M	BTS-1000	Br.-Blk.-Red Decoupling
91	220Ω	½	RC20AE221M		Red-Red-Br. Parasitic Suppressor
92	22KΩ	½	RC20AE223M	BTS-22K	Red-Red-Or. Osc. Grid
93	220Ω	½	RC20AE221M		Red-Red-Br. AFC Network
94	100KΩ	½	RC20AE104M	BTS-100K	Br.-Blk.-Yl. " "
95	10KΩ	2	RC40AE103M	BTS-10K	Br.-Blk.-Or. Voltage Dropping
96	1 Meg.	½	RC20AE105M	BTS-1 Meg.	Br.-Blk.-Grn. Tone Comp.
97	1 Meg.	½	RC20AE105M	BTS-1 Meg.	Br.-Blk.-Grn. " "
98	47KΩ	½	RC20AE473M	BTS-47K	Yl.-Vi.-Or. " "
99	68KΩ	½	RC20AE683K	BTS-68K	Blue-Gray-Or. AVC Network
100	47KΩ	1	RC30AE473M	BTA-47K	Yl.-Vi.-Or. 1st IF Screen Dropping
101	1000Ω	½	RC20AE102M	BTS-1000	Br.-Blk.-Red 1st IF Plate Decoup.
102	330KΩ	½	RC20AE334M	BTS-330K	Or.-Or.-Yl. Diode Load
103	220KΩ	½	RC20AE224M	BTS-220K	Red-Red-Yl. 2nd IF Grid
104	1 Meg.	½	RC20AE105M	BTS-1 Meg.	Br.-Blk.-Grn. AVC Network
105	220Ω	½	RC20AE221M		Red-Red-Br. 2nd IF Cathode
106	7000Ω	1	RC30AE473M	BTA-7K	Vi.-Blk.-Red 2nd IF Screen Dropping
107	1000Ω	½	RC20AE102M	BTS-1000	Br.-Blk.-Red 2nd IF Plate Decoupling
108	220KΩ	½	RC20AE224M	BTS-220K	Red-Red-Yl. Diode Load
109	47KΩ	½	RC20AD473M	BTS-47K	Yl.-Vi.-Or. Diode RF Filter

DATE 9/48-#4816-12 SET #46-FOLDER #12

PARTS LIST AND DESCRIPTIONS (Continued)

R F COILS

ITEM No.	USE	DC RES.		REPLACEMENT DATA		
		PRI.	SEC.	HALLICRAFTER PART No.	MEISSNER PART No.	
156	Ant. Coil BC	42Ω	7.4Ω	51B955		
157	" " SW	0Ω	.3Ω	51B909		
158	" " FM		0Ω	51B916		
159	RF Coil BC	6.7Ω	20.7Ω	51B910		
160	" " SW	0Ω	5.8Ω	51B905		
161	" " FM	0Ω	0Ω	51B915		
162	Osc.Coil BC		4.8Ω	51B911		
163	" " SW		.3Ω	51B908		
164	" " FM		0Ω	51B914		
165	1st IF Trans.	5Ω	5Ω	50C210		
166	2nd IF "	5.8Ω	5.3Ω	50C209		
167	3rd IF "	5.8Ω	5.3Ω	50C209		
168	FM Det. "	2Ω	1.2Ω	50C208		
169	RF Choke		.2Ω	53B008		
170	" "		.2Ω	53B009		
171	" "		10.5Ω	53A106		
172	" "		10.5Ω	53A106		
173	" "		10.5Ω	53A106		
174	" "		10.5Ω	53A106		
175	" "		0Ω	53A115		

DIAL LIGHT

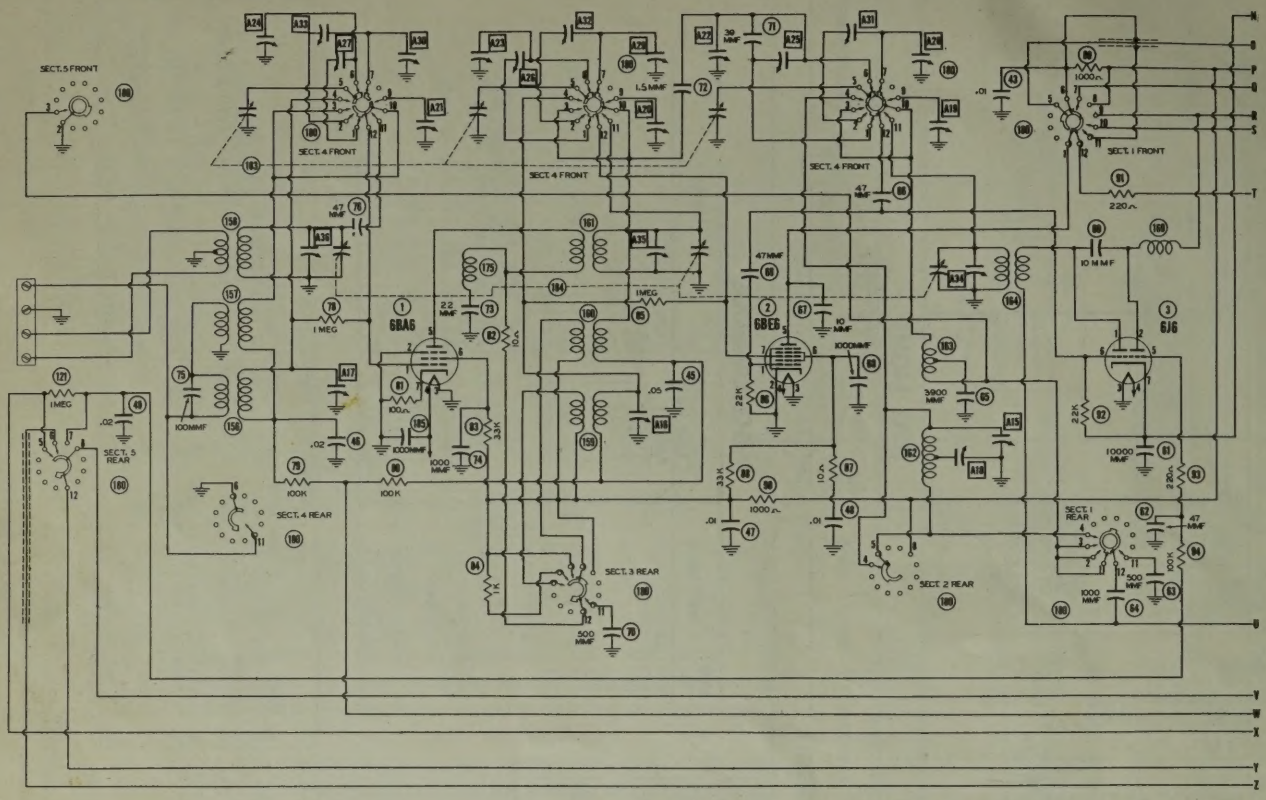
ITEM No.	BASE TYPE	VOLTS	AMPS.	BEAD COLOR	REPLACEMENT DATA		INSTALLATION NOTES
					HALLICRAFTERS PART No.		
176	Bayonet	6-8	0.15	Brown			Type 47
177	"	"	"	"			" "

MISCELLANEOUS

ITEM No.	PART NAME	HALLICRAFTERS PART No.	NOTES
178	Switch	60B307	Bass-On-Off
179	"	60B264	Treble
180	"	60C266	Band
181	"	18A092	Muting
182	Ballast Tube	24B870	
183	3 Gang Var. Cap	48C176	(AM) (12-475MMF) each section
184	" " " "	48C175	(FM)
A18	Trimmer	44A189	BC Osc. Adj.
	Trimmer Strip (Osc	44B195	A15, A19, A22, A25, A28, A31
	" " (RF)	44B196	A16, A20, A23, A26, A29, A32
	" " (Ant	44B190	A17, A21, A24, A27, A30, A33
A35	Trimmer	44A192	FM RF Adj.
A36	"	44A194	FM Ant. Adj.
	Pointer	82B143	AM
	"	82B138	FM
	Dial Glass	22B184	Upper
	" "	22B193	Lower
	Knob	15A131	

PUSHBUTTON ADJUSTMENTS

1. Make up list of stations desired to be set up.
2. Turn set on and allow to warm up for at least fifteen minutes.
3. Insulate muting switches by inserting paper strip between contacts.
4. Remove transparent section of button and insert screwdriver thru large hole of button.
5. Loosen locking screw not more than one turn.
6. Depress pushbutton and manually tune in station desired to be set up, and tighten locking screw.
7. Insert call letter tab of station between transparent section of button and metal insert and replace insert in button. This station is now set up.
8. Repeat the above procedure for the remaining buttons to be set up.



VOLTAGE AND RESISTANCE READINGS TAKEN IN BROADCAST POSITION.
NOTE-Tone Control full clockwise.

VOLTAGE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
1	6BA6	-.2VDC	0V.	0V.	6.4VAC	260VDC	140VDC	1.6VDC	-
2	6BE6	-11VDC§	0V.	0V.	6.4VAC	320VDC	95VDC	-.2VDC	-
3A	6J6	215VDC	1.7VDC	0V.	6.4VAC	0V.	-14VDC§	2VDC	-
3B	6J6	190VDC	110VDC	0V.	6.4VAC	-.6VDC	-3.3VDC§	4VDC	-
4	6SQ7	0V.	0V.	0V.	-.4VDC	0V.	130VDC	6.4VAC	310VDC
5	6SQ7	0V.	0V.	2.8VDC	0V.	2.8VDC	182VDC	6.4VAC	315VDC
6A	6SQ7	0V.	0V.	0V.	-.8VDC	0V.	1.3VDC	6.4VAC	1.5VDC
6B	6SA7	0V.	0V.	2.2VDC	0V.	2.2VDC	140VDC	6.4VAC	245VDC
7	6SH7	0V.	0V.	0V.	-.2VDC	0V.	75VDC	6.3VAC	77VDC
8	6AL5	-7.4VDC	9VDC	6.3VAC	0V.	5VDC	0V.	-3.6VDC	-
9	6J5	0V.	6.4VAC	70VDC	.47VDC	0V.	125VDC	0V.	3VDC
10	6J5	0V.	6.4VAC	112VDC	130VDC	0V.	0V.	0V.	3VDC
11	6SQ7	0V.	0V.	1VDC	0V.	0V.	125VDC	6.4VAC	0V.
12	6SQ7	0V.	-.1VDC	2VDC	0V.	0V.	200VDC	6.4VAC	0V.
13	6V6GT	0V.	0V.	345VDC	325VDC	0V.	0V.	6.4VAC	21VDC
14	6V6GT	0V.	0V.	345VDC	325VDC	0V.	0V.	6.4VAC	21VDC
15	5U4G	0V.	400VDC	0V.	390VAC	0V.	390VAC	0V.	400VDC

§TAKEN WITH VACUUM TUBE VOLTMETER.

RESISTANCE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
1	6BA6	1.5 Meg.	0Ω	0Ω	.05Ω	40KΩ	74KΩ	100Ω	-
2	6BE6	22KΩ	0Ω	0Ω	.05Ω	40KΩ	74KΩ	1.5 Meg.	-
3A	6J6	50KΩ	10KΩ	0Ω	.05Ω	INF.	22KΩ	150Ω	-
3B	6J6	30KΩ	10KΩ	0Ω	.05Ω	INF.	22KΩ	150Ω	-
4	6SQ7	0Ω	0Ω	0Ω	1.4 Meg.	0Ω	87KΩ	.05Ω	40KΩ
5	6SQ7	0Ω	0Ω	220Ω	220KΩ	220Ω	87KΩ	.05Ω	40KΩ
6A	6SQ7	0Ω	0Ω	220Ω	600KΩ	220Ω	67KΩ	.05Ω	23KΩ
6B	6SA7	0Ω	0Ω	220Ω	600KΩ	220Ω	57KΩ	.05Ω	19KΩ
7	6SH7	0Ω	0Ω	0Ω	100KΩ	0Ω	140KΩ	.25Ω	140KΩ
8	6AL5	INF.	INF.	.25Ω	0Ω	100KΩ	0Ω	100KΩ	-
9	6J5	0Ω	.05Ω	170KΩ	40KΩ	2 Meg.	80KΩ	0Ω	690Ω
10	6J5	0Ω	.05Ω	45KΩ	40KΩ	22KΩ	INF.	0Ω	690Ω
11	6SQ7	0Ω	100KΩ	220Ω	0Ω	0Ω	510KΩ	.05Ω	0Ω
12	6SQ7	0Ω	100KΩ	3.9KΩ	0Ω	0Ω	260KΩ	.05Ω	0Ω
13	6V6GT	0Ω	0Ω	40KΩ	40KΩ	430KΩ	100KΩ	.05Ω	330Ω
14	6V6GT	0Ω	0Ω	40KΩ	40KΩ	570KΩ	INF.	.05Ω	330Ω
15	5U4G	INF.	40KΩ**	INF.	100Ω	INF.	.05Ω	INF.	40KΩ**

‡ VOLTAGE AND RESISTANCE READINGS TAKEN IN FM POSITION.

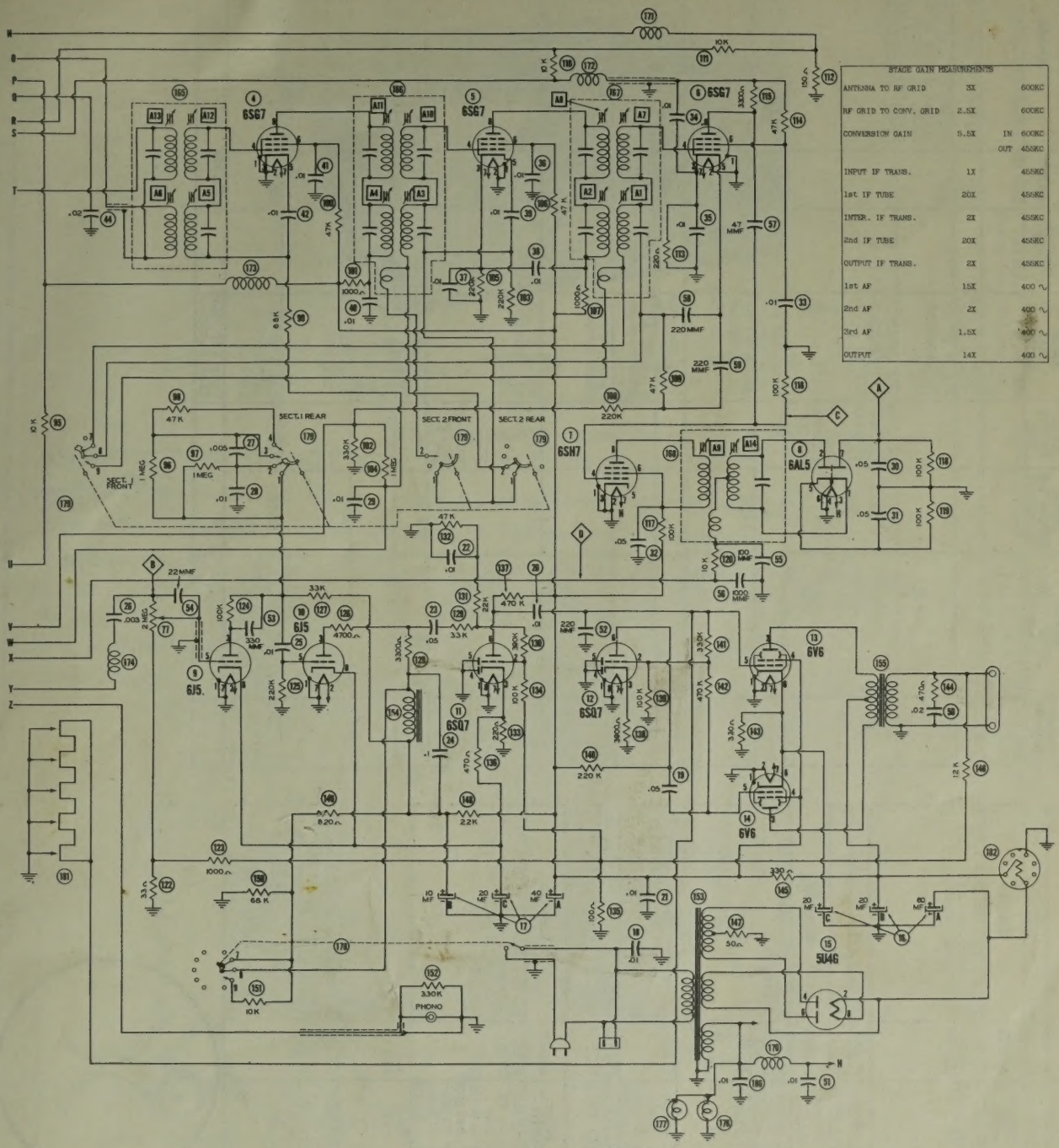
Voltage and Resistance Readings taken with 500Ω load.
**10KΩ in FM position.

RESISTANCE READINGS IN THE B+ CIRCUITS MAY VARY WIDELY ACCORDING TO THE CONDITION OF THE FILTER CAPACITORS

THE COOPERATION OF THE MANUFACTURER OF THIS RECEIVER MAKES IT POSSIBLE TO BRING YOU THIS SERVICE

1. **DC Voltage measurements are at 20,000 ohms per volt; AC Voltages measured at 1,000 ohms per volt.**
2. **Socket connections are shown as bottom views.**
3. **Measured values are from socket pin to common negative.**
4. **Line voltage maintained at 117 volts for voltage readings.**
5. **Nominal tolerance on component values makes possible a variation of ± 10% in voltage and resistance readings.**
6. **Volume control at maximum, no signal applied for voltage measurements.**

A PHOTOFACT STANDARD NOTATION SCHEMATIC



IF=455KC AM

IF=10.7MC FM

The stage gain measured values listed above are approximate values for an average operative stage, rather than an absolute value. It should be borne in mind that it is possible to introduce so many variables into the measurement operation, such as, type of equipment used for measuring, handling and placement of probes, the accuracy of alignment, etc., that an absolute reading is impractical. AVC is made inoperative and 3-volt battery bias substituted for measurement.

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

Use scales on dial pointer rails for calibration purposes. These are accessible after dial backplate has been removed. With tuning caps. fully closed set right edges of dial pointer saddles to "0" on both scales.

Use insulated screwdriver for all adjustments.

Set treble tone control to #1 position fully counter-clockwise.

AM IF ALIGNMENT

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	BAND SWITCH POS.	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
1	.01 MFD	High side to stator of center section of AM tuning cap. Low side of chassis.	455KC	BC (3 Positions from full counter-clockwise)	#55 on AM calibration strip.	Across voice coil	A1,A2, A3,A4, A5,A6.	Adjust for maximum output with tone control fully counter-clockwise.

FM IF ALIGNMENT USING AM SIGNAL GENERATOR AND VTVM

If a VTVM is not available a 20KΩ per volt DC voltmeter may be used.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	BAND SWITCH POS.	RADIO DIAL SETTING	CONNECT VTVM	ADJUST	REMARKS
2	.01 MFD	High side to stator of center section of FM tuning cap. Low side to chassis.	10.7MC (Unmodulated)	FM (4 Positions from full counter-clockwise)	#50 on FM calibration strip.	DC probe to Point ◈ .Common to chassis	A7,A8, A9,A10, A11,A12, A13	Adjust for maximum deflection.
3	.01 MFD	"	"	"	"	DC probe to Point ◈ .Common to chassis	A14	Adjust for zero deflection. Continue with RF Alignment in Step 5.

FM IF ALIGNMENT USING FM SIGNAL GENERATOR AND OSCILLOSCOPE

Use frequency modulated signal with 60 ∿ modulation and 250KC sweep. Use 120 ∿ sawtooth voltage in scope for horizontal deflection.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	BAND SWITCH POS.	RADIO DIAL SETTING	SCOPE CONNECT	ADJUST	REMARKS
2	.01 MFD	High side to Pin 4 (grid) of 6SG7. 1st IF Tube (4). Low side to chassis.	10.7MC (Freq. Mod.)	FM (4 Positions from full counter-clockwise)	#50 on FM calibration strip.	Vertical input in series with 200K Ω resistor to Point ◈ .Ground to chassis	A7,A8, A10,A11	Adjust for maximum amplitude, symmetry and coincidence of pattern per Fig. 1.
3	.01 MFD	High side to stator of center section of FM tuning cap. Low side to chassis.	"	"	"	"	A12, A13	"
4	.01 MFD	High side to Pin 4 (grid) of 6SG7 1st IF Tube (4). Low side to chassis.	"	"	"	Vertical input to Point ◈. Ground to chassis.	A9,A14	Alternately adjust A9 for maximum amplitude and A14 for maximum straightness of crossover lines with crossover occurring at center of pattern per Fig. 2. Continue with RF Alignment in Step 5.

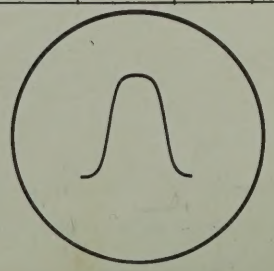


FIG. 1

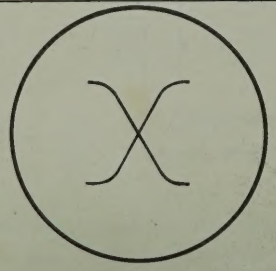


FIG. 2

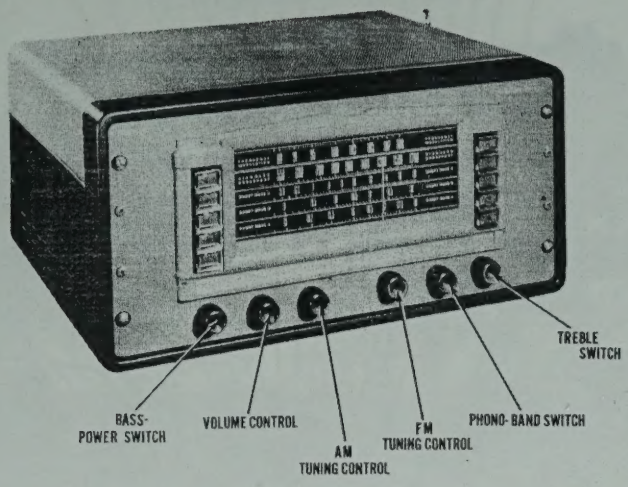
RF ALIGNMENT

Standard RMA dummy antenna consists of 200 MMFD cap. in series with a 20 microhenry RF Choke with choke shunted by a 400 MMFD cap. in series with a 400Ω carbon resistor.

Volume control should be at maximum position, output of signal generator should be no higher than necessary to obtain an output reading. Use an insulated alignment screwdriver for adjusting.

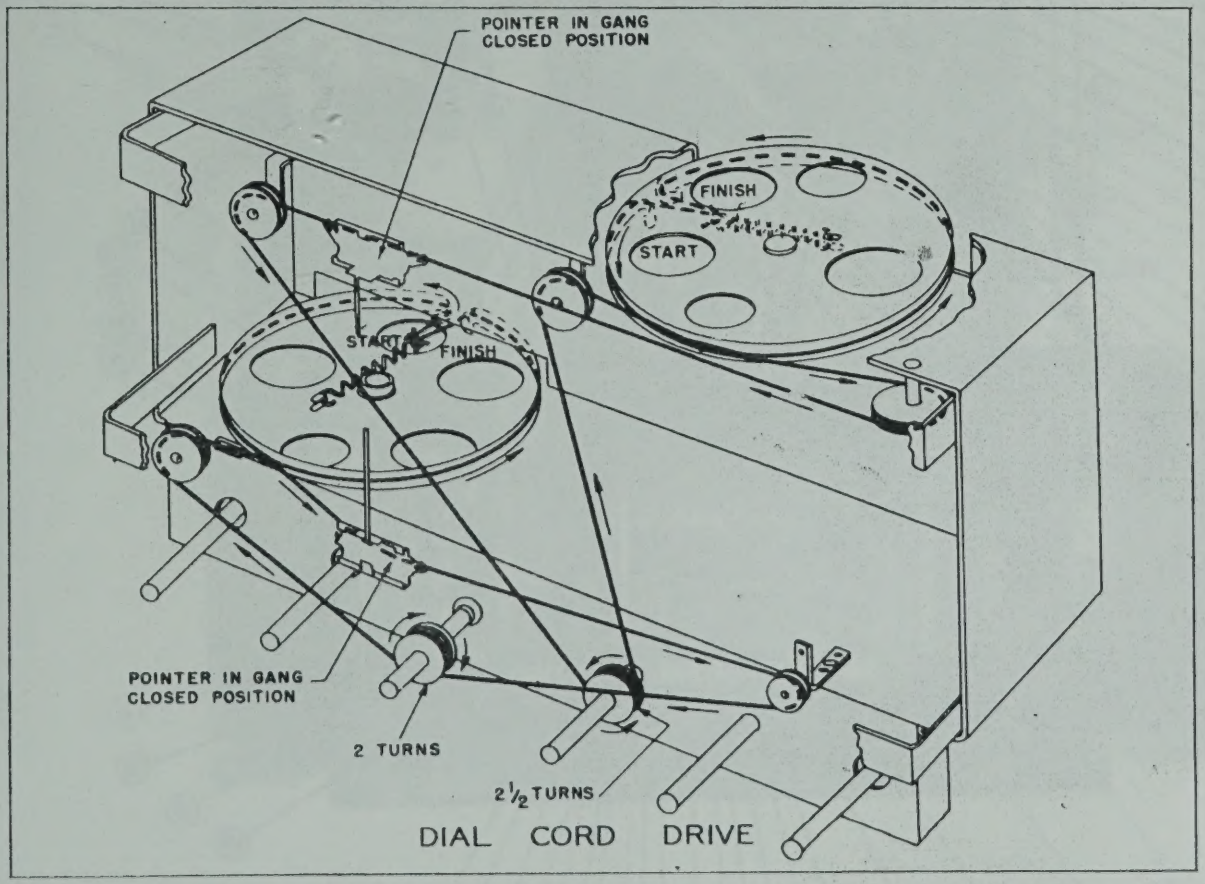
	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	BAND SWITCH POS.	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
5	RMA Dummy	To terminals "A" and "G" on ant. terminal strip	1500KC	BC	#82 on AM calibration strip.	Across voice coil	A15	Adjust for maximum output
6	"	"	"	"	Tune for maximum output.	"	A16, A17	Adjust for maximum output
7	"	"	600KC	"	#15.5 on AM calibration strip.	"	A18	Adjust for maximum output. Repeat Steps 5, 6 & 7 until no further improvement can be made.
8	"	"	16MC	Band "C" (2 positions from full counter-clockwise)	#84 on AM calibration strip.	"	A19	Adjust for maximum output
9	"	"	"	"	Tune for maximum output.	"	A20, A21	Rock tuning cap. and adjust for maximum output.
10	"	"	18MC	"A" (fully counter-clockwise)	#94.5 on AM calibration strip.	"	A22	Adjust for maximum output
11	"	"	"	"	Tune for maximum output.	"	A23, A24	Rock tuning cap. and adjust for maximum output.
12	"	"	15MC	"	#7.5 on AM calibration strip.	"	A25	Adjust for maximum output
13	"	"	"	"	Tune for maximum output.	"	A26, A27	Rock tuning cap. and adjust for maximum output. Repeat Steps 10, 11, 12 & 13 until no further improvement can be made.
14	"	"	12MC	"B" (1 Position from full counter-clockwise)	#91.5 on AM calibration strip.	"	A28	Adjust for maximum output
15	"	"	"	"	Tune for maximum output.	"	A29,A30	Rock tuning cap. and adjust for maximum output.
16	"	"	9MC	"	#6.5 on AM calibration strip.	"	A31	Adjust for maximum output
17	"	"	"	"	Tune for maximum output.	"	A32, A33	Rock tuning cap. and adjust for maximum output. Repeat Steps 14, 15, 16 & 17 until no further improvement can be made.
18	2 - 150Ω carbon res.	Each side in series with 150Ω to FM dipole terminals.	108MC	FM	#83.5 on FM calibration strip.	"	A34	Adjust for maximum output
19	"	"	"	"	Tune for maximum output.	"	A35,A36	" " " "

HALLICRAFTERS MODEL S-47



HALLICRAFTERS MODEL S-47

TRADE NAME	Hallicrafters, S-47
MANUFACTURER	Hallicrafters Co., 5th & Kostner Avenues, Chicago 24, Ill.
TYPE SET	AC Operated Multi-Band AM-FM Superheterodyne Receiver
TUBES (FIFTEEN)	Types, 6BA6 RF Amp., 6BE6 Mixer, 6J6 Osc.-AFC, 6SG7 1st IF Amp., 6SG7 2nd IF Amp., 6SG7 FM 3rd IF-AM Det., 6SH7 FM Limiter, 6AL5 FM Det., 6J5 1st AF Amp., 6J5 2nd AF Amp., 6SQ7 3rd AF Amp., 6SQ7 Phase Inv., (2) 6V6GT Power Output, 5U4G Rectifier.
POWER SUPPLY	105-125 Volts AC RATING 1.4 Amp. @ 117 Volts AC
TUNING RANGE-BROADCAST	540-1700KC SHORT WAVE-Band "A" 15-18MC, Band "B" 9-12MC, Band "C" 5.8-18MC FREQ. MOD. 88-108MC

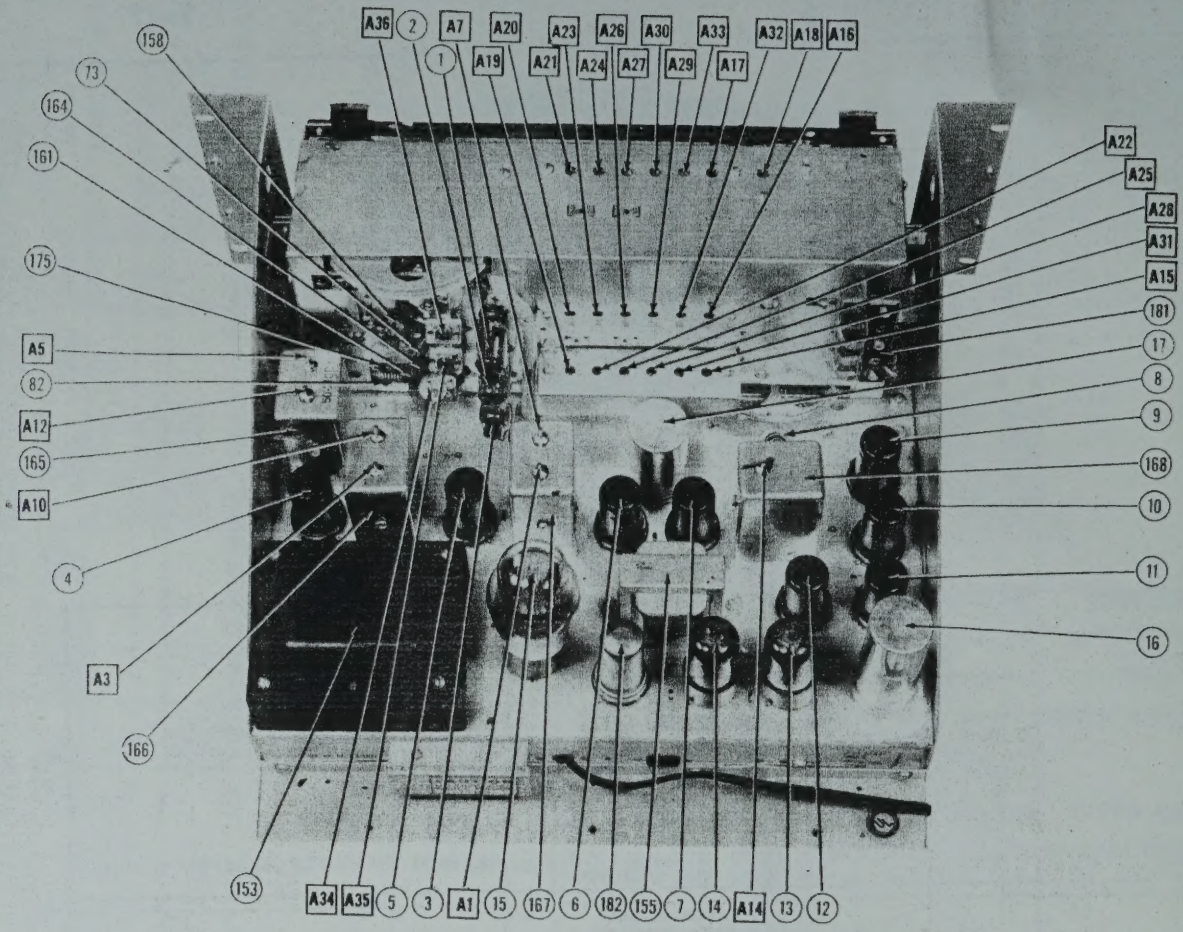


DIAL CORD DRIVE

HALLICRAFTERS MODEL S-47

HOWARD W. SAMS & CO., INC. • 2924 East Washington Street • Indianapolis 7, Indiana

DATE 9/48-#4816-12 SET #46-FOLDER #12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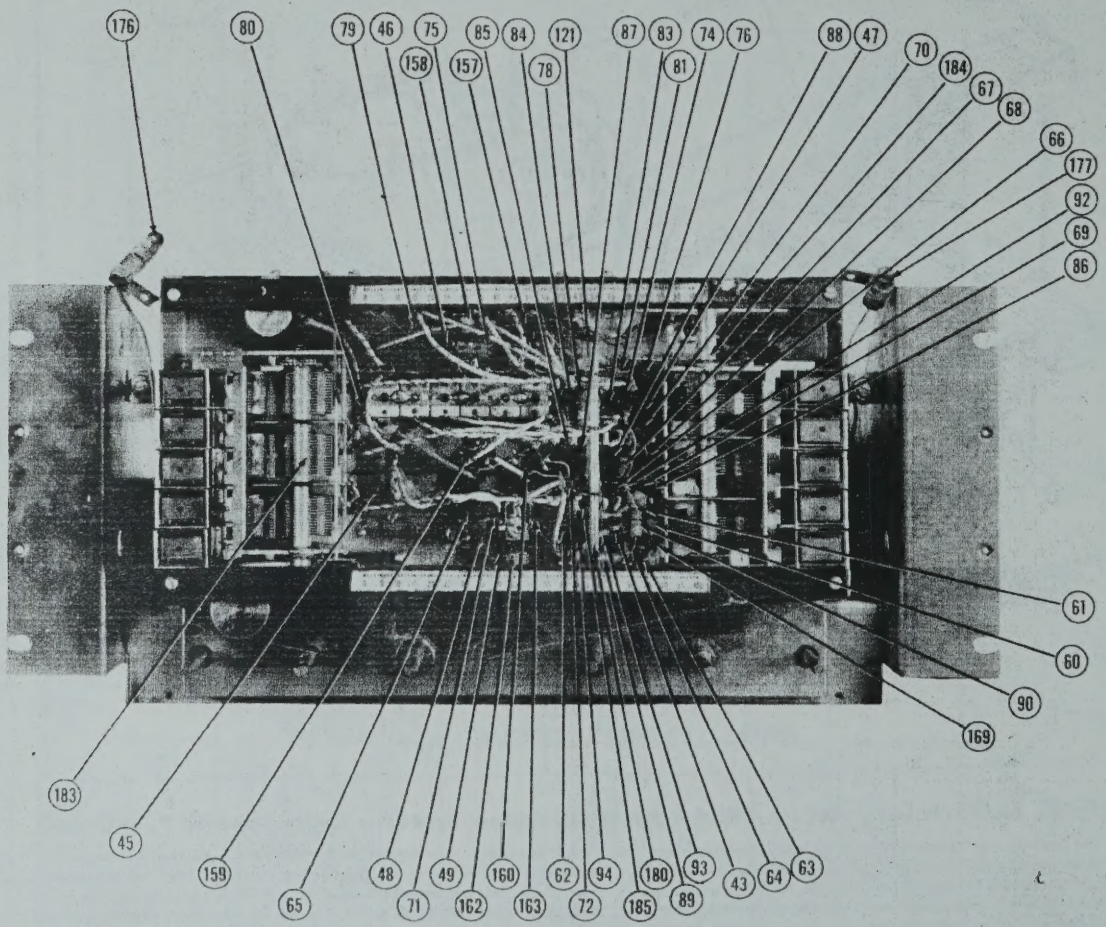
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A2
A4
A6
A8
A9
A11
A13
A
B
C
D

PARTS LIST AND DESCRIPTIONS

TUBES (SYLVANIA or Equivalent)

ITEM No.	USE	REPLACEMENT DATA: HALLICRAFTERS PART No.	REPLACEMENT DATA: STANDARD REPLACEMENT	RMA BASE TYPE	INSTALLATION NOTES
1	RF Amp.	6BA6	6BA6	7BM	
2	Mixer	6BE6	6BE6	7CM	
3	Osc.-Amp.	6J6	6J6	7BF	
4	1st IF Amp.	6SG7	6SG7	7BK	
5	2nd IF Amp.	6SG7	6SG7	7BK	
6	FM 3rd IF Amp. Det.	6SG7	6SG7	7BK	
7	FM Limiter	6SH7	6SH7	7BK	
8	FM Det.	6AL5	6AL5	6BT	
9	1st AF Amp.	6J5	6J5	6Q	
10	2nd AF Amp.	6J5	6J5	6Q	
11	3rd AF Amp.	6SQ7	6SQ7	8W	
12	Phase Inv.	6SQ7	6SQ7	8Q	
13	Power Output	6V6GT	6V6GT	7AC	
14	" "	6V6GT	6V6GT	7AC	
15	Rectifier	5U4G	5U4G	5T	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING: CAP.	RATING: VOLT	REPLACEMENT DATA: HALLICRAFTERS PART No.	REPLACEMENT DATA: AEROVOX PART No.	REPLACEMENT DATA: CORNELL-DUBILIER PART No.	REPLACEMENT DATA: SOLAR PART No.	REPLACEMENT DATA: SPRAGUE PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
16A	60	475	45B099		UP9DJ53‡			■ Filter
B	20	475						▲ "
C	20	20						Cathode Bypass
17A	40	450	45B100	AF86J4A†	UP9DJ53†	DY-315		■ Filter
B	10	450						▲ Decoupling
C	20	30						Cathode Bypass
18	.01	600	46AG103J	684-01	DT6S1	MPE-6-01	TC-11	Line Filter
19	.05	600	46AY503F	684-05	DT6S5	ST-6-05	TC-15	Audio Coupling
20	.01	600	46AG103F	684-01	DT6S1	ST-6-01	TC-11	" "
21	.01	600	46AG103F	684-01	DT6S1	ST-6-01	TC-11	RF Bypass Pwr. Supply
22	.01	600	46AG103F	684-01	DT6S1	ST-6-01	TC-11	Tone Compensation
23	.05	600	46AY503F	684-05	DT6S5	ST-6-05	TC-15	Audio Coupling
24	.1	200	46AU104F	484-.1	DT4P1	ST-4-.1	TC-1	Tone Compensation
25	.01	600	46AG103F	684-01	DT6S1	ST-6-01	TC-11	Audio Coupling
26	.003	600	46AZ302J	684-003	DT6D3	ST-6-003	TC-23	" "
27	.005	600	46AZ502F	684-005	DT6D5	ST-6-005	TC-25	Tone Compensation
28	.01	600	46AG103F	684-01	DT6S1	ST-6-01	TC-11	" "
29	.01	600	46AG103F	684-01	DT6S1	ST-6-01	TC-11	AVC Filter
30	.05	600	46AY503F	684-05	DT6S5	ST-6-05	TC-15	Diode Load Cap.
31	.05	600	46AY503F	684-05	DT6S5	ST-6-05	TC-15	" " "
32	.05	600	46AY503F	684-05	DT6S5	ST-6-05	TC-15	4th IF Plate Decoup.
33	.01	600	46AG103F	684-01	DT6S1	ST-6-01	TC-11	3rd IF Screen Bypass
34	.01	600	46AG103F	684-01	DT6S1	ST-6-01	TC-11	3rd IF Plate Decoup.
35	.01	600	46AG103F	684-01	DT6S1	ST-6-01	TC-11	3rd IF Plate Decoup.
36	.01	600	46AG103F	684-01	DT6S1	ST-6-01	TC-11	2nd IF Screen Bypass
37	.01	600	46AG103F	684-01	DT6S1	ST-6-01	TC-11	2nd IF Cathode Bypass
38	.01	600	46AG103F	684-01	DT6S1	ST-6-01	TC-11	2nd IF Plate Decoup.
39	.01	600	46AG103F	684-01	DT6S1	ST-6-01	TC-11	2nd IF Grid Filter
40	.01	600	46AG103F	684-01	DT6S1	ST-6-01	TC-11	1st IF Plate Decoup.
41	.01	600	46AG103F	684-01	DT6S1	ST-6-01	TC-11	1st IF Screen Bypass
42	.01	600	46AG103F	684-01	DT6S1	ST-6-01	TC-11	AVC Filter
43	.01	600	46AG103F	684-01	DT6S1	ST-6-01	TC-11	Mixer Plate Decoup.
44	.02	600	46AY203F	684-02	DT6S2	ST-6-02	TC-12	" " "
45	.05	600	46AY503F	684-05	DT6S5	ST-6-05	TC-15	AVC Filter
46	.02	600	46AY203F	684-02	DT6S2	ST-6-02	TC-12	" "
47	.01	600	46AG103F	684-01	DT6S1	ST-6-01	TC-11	Decoupling
48	.01	600	46AG103F	684-01	DT6S1	ST-6-01	TC-11	Mixer Screen Bypass
49	.02	600	46AY203F	684-02	DT6S2	ST-6-02	TC-12	AFC Filter
50	.02	600	46AY203F	684-02	DT6S2	ST-6-02	TC-12	Tone Compensation
51	.01	600	46AG103F	684-01	DT6S1	ST-6-01	TC-11	Filament Bypass
52	220	500	CM20A221M	1468-0002	5W5T2	MO.5-325	1FM-325	AF Plate Bypass
53	330	500	CM20A331M	1468-00035	5W5T3	MO.5-33	1FM-33	Tone Compensation
54	22	500	CM20A220K	1468-000025	5W5Q2	MO.5-425	MS-42	" "
55	100	500	CM20A101M	1468-0001	5W5T1	MO.5-31	1FM-31	RF Bypass
56	1000	300	CM30A102M	1468-001	1W5D1	MO.5-21	1FM-21	De-emphasis
57	47	500	CM20A470M	1468-00005	5W5Q5	MO.5-45	1FM-45	IF Coupling
58	220	500	CM20A221M	1468-0002	5W5T2	MO.5-325	1FM-325	Diode RF Filter

PARTS LIST AND DESCRIPTIONS (Continued)

RESISTORS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: HALLICRAFTERS PART No.	REPLACEMENT DATA: IRC PART No.	IDENTIFICATION CODES
110	1MΩ	2	RC40AE105M	BT-2-1M	Br.-Blk.-Gr. Voltage Dropping
111	47KΩ	2	RC40AE473M	BT-2-47K	Yl.-Vi.-Or. " "
112	150Ω	2	RC20AE151M		Br.-Grn.-Br. Osc. Cathode
113	220Ω	2	RC20AE221M		Red-Red-Br. 3rd IF Cathode
114	47KΩ	1	RC30AE473M	BTA-47K	Yl.-Vi.-Or. 3rd IF Screen Dropping
115	33KΩ	2	RC20AE333M	BTS-33K	Or.-Or.-Red 3rd IF Plate Load
116	100KΩ	2	RC20AE104M	BTS-100K	Br.-Blk.-Yl. 4th IF Grid
117	100KΩ	2	RC20AE104M	BTS-100K	Br.-Blk.-Yl. 4th IF Screen Dropping
118	100KΩ	2	RC20AE104M	BTS-100K	Br.-Blk.-Yl. Ratio Det. Diode Load
119	100KΩ	2	RC20AE104M	BTS-100K	Br.-Blk.-Yl. " " " "
120	1CKΩ	2	RC20AE103M	BTS-10K	Br.-Blk.-Or. De-emphasis
121	1 Meg.	2	RC20AE105M	BTS-1 Meg.	Br.-Blk.-Grn. AFC Network
122	33Ω	2	RC20AE330M	BW-½-33	Or.-Or.-Blk. Feedback
123	1000Ω	2	RC20AE102M	BTS-1000	Br.-Blk.-Red "
124	100KΩ	2	RC20AE104M	BTS-100K	Br.-Blk.-Yl. Tone Comp.
125	220KΩ	2	RC20AE224M	BTS-220K	Red-Red-Yl. 2nd AF Grid
126	4700Ω	2	RC20AE472M	BTS-4700	Yl.-Vi.-Red Tone Comp.
127	33KΩ	2	RC20AE333M	BTS-33K	Or.-Or.-Or. 1st AF Plate Load
128	3300Ω	2	RC20AE332M	BTS-3300	Or.-Or.-Red 2nd AF Plate Load
129	33KΩ	2	RC20AE333M	BTS-33K	Or.-Or.-Or. Tone Comp.
130	390KΩ	2	RC20AE394K	BTS-390K	Or.-Wh.-Yl. 3rd AF Grid
131	22K	2	RC20AE223M	BTS-22K	Red-Red-Or. Tone Comp.
132	47KΩ	2	RC20AE473M	BTS-47K	Yl.-Vi.-Or. " "
133	220Ω	2	RC20AE221M	BW-½-220	Red-Red-Br. Cathode Bias Network
134	100KΩ	2	RC20AE104M	BTS-100K	Br.-Blk.-Grn. 3rd AF Grid
135	100Ω	2	RC20AE101K	BW-½-100	Br.-Blk.-Br. Feedback
136	470Ω	2	RC20AE471M	BTS-470	Yl.-Vi.-Br. Cathode Bias Network
137	470KΩ	2	RC20AE474M	BTS-470K	Yl.-Vi.-Yl. 3rd AF Plate Load
138	3300Ω	2	RC20AE332K	BTS-3300	Or.-Wh.-Red Phase Inverter Cathode
139	100KΩ	2	RC20AE104M	BTS-100K	Br.-Blk.-Yl. Phase Inverter Grid
140	220KΩ	2	RC20AE224M	BTS-220K	Red-Red-Yl. Phase Inverter Plate Load
141	330K	2	RC20AE334M	BTS-330K	Or.-Or.-Yl. Output Grid
142	470KΩ	2	RC20AE474M	BTS-470K	Yl.-Vi.-Yl. " "
143	330Ω	5	24A864	AB-300	Or.-Or.-Br. Output Cathode
144	470Ω	2	RC40AE471M	BT-2-470	Yl.-Vi.-Br. Tone Compensation
145	300Ω	5	24A884	AB-300	Or.-Or.-Br. Filter
146	12KΩ	2	RC20AE123K	BTS-12K	Br.-Red-Or. Feedback
147	50Ω	5	RC65AE470M	AB-50	Grn.-Blk.-Blk. Voltage Dropping
148	22KΩ	1	RC30AE223M	BTA-22K	Red-Red-Or. Decoupling
149	320KΩ	2	RC20AE321K	BTS-320K	Gray-Red-Yl. Tone Comp.
150	68KΩ	2	RC20AE683K	BTS-68K	Blue-Gray-Or. Bleeder
151	10KΩ	2	RC20AE103M	BTS-10K	Br.-Blk.-Or. Tone Comp.
152	330KΩ	2	RC20AE334M	BTS-330K	Or.-Or.-Yl. Phono Shunt

TRANSFORMER (POWER)

ITEM No.	RATING: PRI.	RATING: SEC. 1	RATING: SEC. 2	RATING: SEC. 3	REPLACEMENT DATA: HALLICRAFTERS PART No.	REPLACEMENT DATA: STANCOR PART No.	REPLACEMENT DATA: THORDARSON PART No.	REPLACEMENT DATA: MERIT PART No.
153	117V AC @ 1.4A	780V CT .175A DC	5.2V AC @ 3.0A	6.4V AC @ 3.0A	52C151	P-6135	T22R07	P-2955

TONE CHOKE

ITEM NO.	RATINGS: TOTAL DIRECT CURRENT	RATINGS: D.C. RESISTANCE	RATINGS: INDUCTANCE (0 CURRENT 1000 ~)	REPLACEMENT DATA: HALLICRAFT. PART NO.	REPLACEMENT DATA: STANCOR PART NO.	REPLACEMENT DATA: THORDARSON PART NO.	REPLACEMENT DATA: MERIT PART No.	INSTALLATION NOTES
154	4.5MA	650Ω	12.5 Henries	56E082				

TRANSFORMER (OUTPUT)

ITEM No.	RATING: IMPEDANCE PRI.	RATING: IMPEDANCE SEC.	RATING: DC RES. PRI.	RATING: DC RES. SEC.	REPLACEMENT DATA: HALLICRAFT. PART No.	REPLACEMENT DATA: STANCOR PART No.	REPLACEMENT DATA: THORDAR'N PART No.	REPLACEMENT DATA: MERIT PART No.	INSTALLATION NOTES
155	7000Ω CT	600Ω CT	400Ω	31Ω	55D096		T-22S68*		*Drill new mounting holes.

PARTS LIST AND DESCRIPTIONS (Continued)

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING CAP.	RATING VOLT	REPLACEMENT DATA HALLICRAFTERS PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	SOLAR PART No.	SPRAGUE PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
78	[illegible]	[illegible]	C-20AA221K	1468-0002	5WST2	MO.5-325	1FM-325	" " "
80	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	RF Coupling-Cer.
81	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Osc. Cathode Bypass-Cer.
82	47	500	CM20A470K	1468-0005	5WST5	MO.5-45	1FM-45	AFC Filter
83	500	300	[illegible]	[illegible]	5WST5	MO.5-35	1FM-35	Osc. Feedback-Cer.
84	1000	300	[illegible]	1468-0001	1W5D1	MW.5-21	1FM-21	Osc. Decoupling-Cer.
85	500	300	CM35A500J					Fixed Pad
86	47	500	[illegible]	[illegible]	5WST5	MO.5-45	1FM-45	Osc. Grid Coup.-Cer.
87	[illegible]	500	CM20A100K	1468-0001	5WST1	MO.5-31	MS-41	Mixer Plate Bypass
88	1000	300	[illegible]	1468-0001	1W5D1	MW.5-21	1FM-21	Mixer Screen Bypass-Cer.
89	47	500	[illegible]	[illegible]	5WST5	MO.5-45	1FM-45	Osc. Coupling-Cer.
90	500	300	47A147	1468-0005	5WST5	MO.5-35	1FM-35	RF Plate Decoup.-Cer.
91	30	500	CC20UK300J					Fixed Pad-Cer.
92	1.5	500	47A150-3					Osc. Feedback-Cer.
93	22	500	C-20AA220K					Fixed Trimmer-Silver
94	1000	300	47A147	1468-0001	1W5D1	MW.5-21	1FM-21	RF Screen Bypass-Cer.
95	100	500	CM20A101K	[illegible]	5WST1	MO.5-31	1FM-31	Fixed Trimmer
96	47	500	C-20AA470K	[illegible]	5WST5	MO.5-45	1FM-45	RF Coupling
135	1000	300	47A147	[illegible]	1W5D1	MW.5-21	1FM-21	Fil. Bypass-Cer.
136	.01	[illegible]	19A100F	[illegible]	27681	ST-6-01	TC-11	Fil. Bypass

†Omit one section.

‡Parallel sections to obtain desired capacity.

CONTROLS

ITEM No.	RATING RESISTANCE	RATING WATTS	REPLACEMENT DATA HALLICRAFTERS PART No.	IRC PART No.	CLAROSTAT PART No.	INSTALLATION NOTES
77A	2 Meg.	2	25A686	D13-139	M-86-2	Volume Control
B	Shaft		Not Req.	A	Not Req.	Attach to 77A per instructions

RESISTORS

ITEM No.	RATING RESISTANCE	RATING WATTS	REPLACEMENT DATA HALLICRAFTERS PART No.	IRC PART No.	IDENTIFICATION CODES
78	1 Meg.	1	RC20AE105M	BTS-1 Meg.	Br.-Blk.-Grn. RF Grid
79	100KΩ	1	RC20AE104M	BTS-100K	Br.-Blk.-Yl. AVC Network
80	100KΩ	1	RC20AE104M	BTS-100K	Br.-Blk.-Yl. " "
81	100Ω	1	RC20AE331M		Br.-Blk.-Brn. RF Cathode
82	10Ω	1	RC20AE100M		Br.-Blk.-Blk. Parasitic Suppressor
83	33KΩ	1	RC30AE333M	BTA-33K	Or.-Or.-Or. RF Screen Dropping
84	1000Ω	1	RC20AE102M	BTS-1000	Br.-Blk.-Red Decoupling
85	1 Meg.	1	RC20AE105M	BTS-1 Meg.	Br.-Blk.-Grn. Conv. Grid
86	22KΩ	1	RC20AE223M	BTS-22K	Red-Red-Or. Mixer Injector Grid
87	10Ω	1	RC20AE100M		Br.-Blk.-Blk. Parasitic Suppressor
88	33KΩ	2	RC40AE333K	BT-2-33K	Or.-Or.-Or. Converter Screen Dropping
89	1000Ω	1	RC20AE102M	BTS-1000	Br.-Blk.-Red Converter Plate Decoupling
90	1000Ω	1	RC20AE102M	BTS-1000	Br.-Blk.-Red Decoupling
91	220Ω	1	RC20AE221M		Red-Red-Br. Parasitic Suppressor
92	22KΩ	1	RC20AE223M	BTS-22K	Red-Red-Or. Osc. Grid
93	220Ω	1	RC20AE221M		Red-Red-Br. AFC Network
94	100KΩ	1	RC20AE104M	BTS-100K	Br.-Blk.-Yl. " "
95	10KΩ	2	RC40AE103M	BTS-10K	Br.-Blk.-Or. Voltage Dropping
96	1 Meg.	1	RC20AE105M	BTS-1 Meg.	Br.-Blk.-Grn. Tone Comp.
97	1 Meg.	1	RC20AE105M	BTS-1 Meg.	Br.-Blk.-Grn. " "
98	47KΩ	1	RC20AE473M	BTS-47K	Yl.-Vi.-Or. " "
99	68KΩ	1	RC20AE683K	BTS-68K	Blue-Gray-Or. AVC Network
100	47KΩ	1	RC30AE473M	BTA-47K	Yl.-Vi.-Or. 1st IF Screen Dropping
101	1000Ω	1	RC20AE102M	BTS-1000	Br.-Blk.-Red 1st IF Plate Decoup.
102	330KΩ	1	RC20AE334M	BTS-330K	Or.-Or.-Yl. Diode Load
103	220KΩ	1	RC20AE224M	BTS-220K	Red-Red-Yl. 2nd IF Grid
104	1 Meg.	1	RC20AE105M	BTS-1 Meg.	Br.-Blk.-Grn. AVC Network
105	220Ω	1	RC20AE221M		Red-Red-Br. 2nd IF Cathode
106	7000Ω	1	RC30AE473M	BTA-7K	Vi.-Blk.-Red 2nd IF Screen Dropping
107	1000Ω	1	RC20AE102M	BTS-1000	Br.-Blk.-Red 2nd IF Plate Decoupling
108	220KΩ	1	RC20AE224M	BTS-220K	Red-Red-Yl. Diode Load
109	47KΩ	1	RC20AE473M	BTS-47K	Yl.-Vi.-Or. Diode RF Filter

DATE 9/48-#4816-12 SET #46-FOLDER #12

PARTS LIST AND DESCRIPTIONS (Continued)

R F COILS

ITEM No.	USE	DC RES. PRI	DC RES. SEC.	REPLACEMENT DATA HALLICRAFTER PART No.	REPLACEMENT DATA MEISSNER PART No.
155	Ant. Coil BC	[illegible]	[illegible]	[illegible]	
157	" " SW	[illegible]	[illegible]	[illegible]	
158	" " FM	[illegible]	[illegible]	[illegible]	
159	RF Coil BC	6.1Ω	20.7Ω	[illegible]	
160	" " SW	.1Ω	3.4Ω	[illegible]	
161	" " FM	.2Ω	.6Ω	[illegible]	
162	Osc.Coil BC		4.8Ω	[illegible]	
163	" " SW		.5Ω	[illegible]	
164	" " FM		.2Ω	[illegible]	
165	1st IF Trans.	.6Ω	.6Ω	500210	
166	2nd IF "	5.2Ω	5.8Ω	500210	
167	3rd IF "	5.2Ω	5.8Ω	500200	
168	FM Det. "	2Ω	1.2Ω	500260	
169	RF Choke		.2Ω	53B006	
170	" "		.2Ω	53B006	
171	" "		10.5Ω	53A106	
172	" "		10.5Ω	53A106	
173	" "		10.5Ω	53A106	
174	" "		[illegible]Ω	53A106	
175	" "		[illegible]Ω	53A105	

DIAL LIGHT

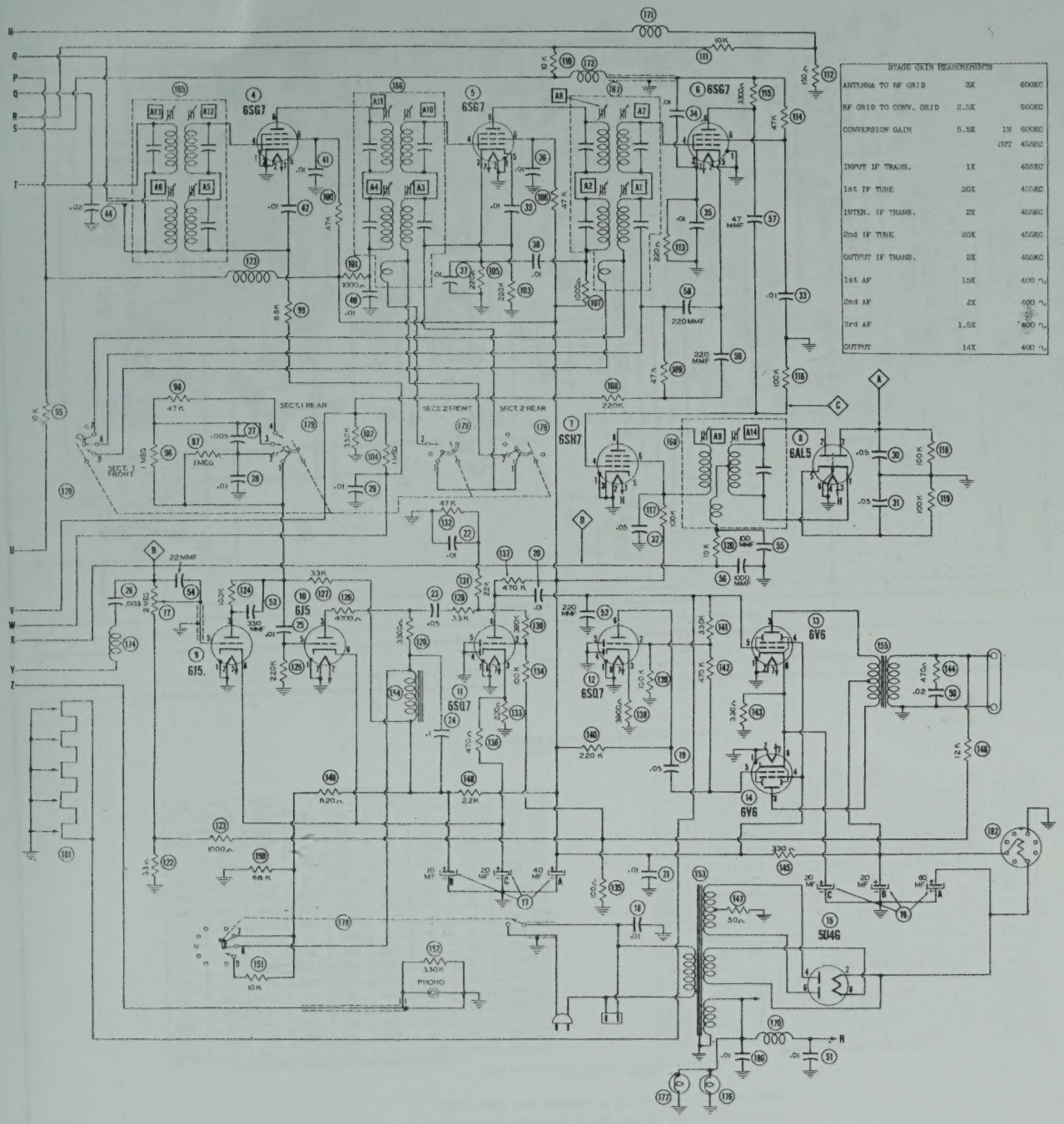
ITEM No.	BASE TYPE	VOLTS	AMPS.	BEAD COLOR	REPLACEMENT DATA HALLICRAFTERS PART No.	INSTALLATION NOTES
176	Bayonet	6-8	0.15	Brown		Type 47
177	"	"	"	"		" "

MISCELLANEOUS

ITEM No.	PART NAME	HALLICRAFTERS PART No.	NOTES
178	Switch	60B307	Bass-On-Off
179	"	60B264	Treble
180	"	60C266	Band
181	"	18A092	Muting
182	Ballast Tube	24B870	
183	3 Gang Var. Cap	48C176	(AM) (12-475MMF) each section
184	" " " "	48C175	(FM)
A16	Trimmer	44A189	BC Osc. Adj.
	Trimmer Strip (Osc	44B195	A15, A19, A22, A25, A28, A31
	" " (RF)	44B196	A16, A20, A23, A26, A29, A32
	" " (Ant)	44B190	A17, A21, A24, A27, A30, A33
A35	Trimmer	44A192	FM RF Adj.
A36	"	44A194	FM Ant. Adj.
	Pointer	82B143	AM
	"	82B138	FM
	Dial Glass	22B184	Upper
	" "	22B193	Lower
	Knob	15A131	

PUSHBUTTON ADJUSTMENTS

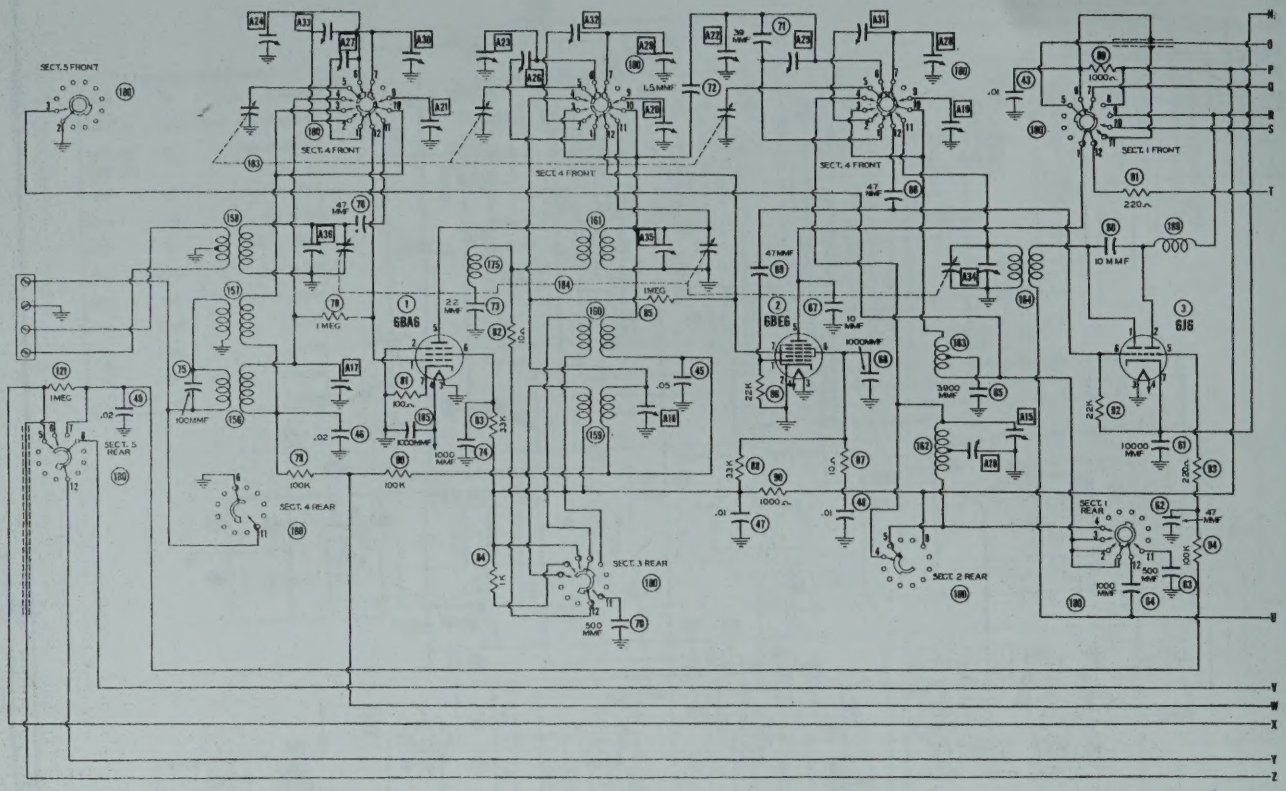
1. Make up list of stations desired to be set up.
2. Turn set on and allow to warm up for at least fifteen minutes.
3. Insulate muting switches by inserting paper strip between contacts.
4. Remove transparent section of button and insert screwdriver thru large hole of button.
5. Loosen locking screw not more than one turn.
6. Depress pushbutton and manually tune in station desired to be set up, and tighten locking screw.
7. Insert call letter tab of station between transparent section of button and metal insert and replace insert in button. This station is now set up.
8. Repeat the above procedure for the remaining buttons to be set up.



IF=455KC AM

IF=10.7MC FM

The stage gain measured values listed above are approximate values for an average operative stage, rather than an absolute value. It should be borne in mind that it is possible to introduce so many variables into the measurement operation, such as, type of equipment used for measuring, handling and placement of probes, the accuracy of alignment, etc., that an absolute reading is impractical. AVC is made inoperative and 3-volt battery bias substituted for measurement.



VOLTAGE AND RESISTANCE READINGS TAKEN IN BROADCAST POSITION.
NOTE-Tone Control full clockwise.

VOLTAGE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
1	6BA6	-.2VDC	0V.	0V.	6.4VAC	280VDC	140VDC	1.0VDC	–
2	6BE6	-11VDC§	0V.	0V.	6.4VAC	320VDC	95VDC	-.2VDC	–
3A	6J6	215VDC	1.7VDC	0V.	6.4VAC	0V.	-14VDC§	2VDC	–
3B	6J6	190VDC	110VDC	0V.	6.4VAC	-.6VDC	-3.3VDC§	4VDC	–
4	6BQ7	0V.	0V.	0V.	-.4VDC	0V.	130VDC	6.4VAC	310VDC
5	6BQ7	-0V.	0V.	2.8VDC	0V.	2.8VDC	162VDC	6.4VAC	315VDC
6A	6BQ7	0V.	0V.	0V.	-.8VDC	0V.	1.3VDC	6.4VAC	1.5VDC
6B	6BA7	0V.	0V.	2.2VDC	0V.	2.2VDC	140VDC	6.4VAC	345VDC
7	6BM7	0V.	0V.	0V.	-.2VDC	0V.	75VDC	6.3VAC	77VDC
8	6AL5	-7.5VDC	9VDC	6.3VAC	0V.	5VDC	0V.	-3.6VDC	–
9	6J5	0V.	6.4VAC	70VDC	.47VDC	0V.	125VDC	0V.	3VDC
10	6J5	0V.	6.4VAC	112VDC	1.3VDC	0V.	0V.	0V.	3VDC
11	6BQ7	0V.	0V.	1VDC	0V.	0V.	125VDC	6.4VAC	0V.
12	6BQ7	0V.	-.1VDC	2VDC	0V.	0V.	200VDC	6.4VAC	0V.
13	6V6GT	0V.	0V.	345VDC	325VDC	0V.	0V.	6.4VAC	21VDC
14	6V6GT	0V.	0V.	345VDC	325VDC	0V.	0V.	6.4VAC	21VDC
15	5U4G	0V.	400VDC	0V.	390VAC	0V.	390VAC	0V.	400VDC

TAKEN WITH VACUUM TUBE VOLTMETER.

RESISTANCE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
1	6BA6	1.6 Meg.	0Ω	0Ω	.05Ω	40KΩ	74KΩ	100Ω	–
2	6BE6	22KΩ	0Ω	0Ω	.05Ω	40KΩ	74KΩ	1.5 Meg.	–
3A	6J6	50KΩ	10KΩ	0Ω	.05Ω	INF.	22KΩ	150Ω	–
3B	6J6	30KΩ	10KΩ	0Ω	.05Ω	INF.	22KΩ	150Ω	–
4	6BQ7	0Ω	0Ω	0Ω	1.4 Meg.	0Ω	67KΩ	.05Ω	40KΩ
5	6BQ7	0Ω	0Ω	220Ω	220KΩ	220Ω	67KΩ	.05Ω	40KΩ
6A	6BQ7	0Ω	0Ω	220Ω	600KΩ	220Ω	67KΩ	.05Ω	25KΩ
6B	6BQ7	0Ω	0Ω	220Ω	600KΩ	220Ω	57KΩ	.05Ω	15KΩ
7	6BM7	0Ω	0Ω	0Ω	100KΩ	0Ω	140KΩ	.25Ω	140KΩ
8	6AL5	INF.	INF.	.25Ω	0Ω	100KΩ	0Ω	100KΩ	–
9	6J5	0Ω	.05Ω	170KΩ	40KΩ	2 Meg.	80KΩ	0Ω	690Ω
10	6J5	0Ω	.05Ω	45KΩ	40KΩ	22KΩ	INF.	0Ω	800Ω
11	6BQ7	0Ω	100KΩ	220Ω	0Ω	0Ω	510KΩ	.05Ω	0Ω
12	6BQ7	0Ω	100KΩ	3.0KΩ	0Ω	0Ω	250KΩ	.05Ω	0Ω
13	6V6GT	0Ω	0Ω	40KΩ	40KΩ	430KΩ	100KΩ	.05Ω	330Ω
14	6V6GT	0Ω	0Ω	40KΩ	40KΩ	570KΩ	INF.	.05Ω	330Ω
15	5U4G	INF.	40KΩ**	INF.	100Ω	INF.	.05Ω	INF.	40KΩ**

§ VOLTAGE AND RESISTANCE READINGS TAKEN IN FM POSITION.

Voltage and Resistance Readings taken with 600Ω load.
**18KΩ in FM position.

RESISTANCE READINGS IN THE B+ CIRCUITS MAY VARY WIDELY ACCORDING TO THE CONDITION OF THE FILTER CAPACITORS

THE COOPERATION OF THE MANUFACTURER OF THIS RECEIVER MAKES IT POSSIBLE TO BRING YOU THIS SERVICE

1. **DC Voltage measurements are at 20,000 ohms per volt; AC Voltages measured at 1,000 ohms per volt.**
2. **Socket connections are shown as bottom views.**
3. **Measured values are from socket pin to common negative.**
4. **Line voltage maintained at 117 volts for voltage readings.**
5. **Nominal tolerance on component values makes possible a variation of ± 10% in voltage and resistance readings.**
6. **Volume control at maximum, no signal applied for voltage measurements.**

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

Use scales on dial pointer rails for calibration purposes. These are accessible after dial backplate has been removed. With tuning caps. fully closed set right edges of dial pointer saddles to "0" on both scales.

Use insulated screwdriver for all adjustments.

Set treble tone control to #1 position fully counter-clockwise.

AM IF ALIGNMENT

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	BAND SWITCH POS.	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
1	.01 MFD	High side to stator of center section of AM tuning cap. Low side of chassis.	455KC	BC (3 Positions from full counter-clockwise)	#55 on AM calibration strip.	Across voice coil	A1, A2, A3, A4, A5, A6.	Adjust for maximum output with tone control fully counter-clockwise.

FM IF ALIGNMENT USING AM SIGNAL GENERATOR AND VTVM

If a VTVM is not available a 20KΩ per volt DC voltmeter may be used.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	BAND SWITCH POS.	RADIO DIAL SETTING	CONNECT VTVM	ADJUST	REMARKS
2	.01 MFD	High side to stator of center section of FM tuning cap. Low side to chassis.	10.7MC (Unmodulated)	FM (4 Positions from full counter-clockwise)	#50 on FM calibration strip.	DC probe to Point ⏢. Common to chassis	A7, A8, A9, A10, A11, A12, A13	Adjust for maximum deflection.
3	.01 MFD	"	"	"	"	DC probe to Point ⏢. Common to chassis	A14	Adjust for zero deflection. Continue with RF Alignment in Step 5.

FM IF ALIGNMENT USING FM SIGNAL GENERATOR AND OSCILLOSCOPE

Use frequency modulated signal with 60 ∿ modulation and 250KC sweep. Use 120 ∿ sawtooth voltage in scope for horizontal deflection.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	BAND SWITCH POS.	RADIO DIAL SETTING	SCOPE CONNECT	ADJUST	REMARKS
2	.01 MFD	High side to Pin 4 (grid) of 6SG7 1st IF Tube (4). Low side to chassis.	10.7MC (Freq. Mod.)	FM (4 Positions from full counter-clockwise)	#50 on FM calibration strip.	Vertical input in series with 200K Ω resistor to Point ⏢. Ground to chassis	A7, A8, A10, A11	Adjust for maximum amplitude, symmetry and coincidence of pattern per Fig. 1.
3	.01 MFD	High side to stator of center section of FM tuning cap. Low side to chassis.	"	"	"	"	A12, A13	"
4	.01 MFD	High side to Pin 4 (grid) of 6SG7 1st IF Tube (4). Low side to chassis.	"	"	"	Vertical input to Point ⏢. Ground to chassis.	A9, A14	Alternately adjust A9 for maximum amplitude and A14 for maximum straightness of crossover lines with crossover occurring at center of pattern per Fig. 2. Continue with RF Alignment in Step 5.

FIG. 1

FIG. 2

RF ALIGNMENT

Standard RMA dummy antenna consists of 200 MMFD cap. in series with a 20 microhenry RF Choke with choke shunted by a 400 MMFD cap. in series with a 400Ω carbon resistor.

Volume control should be at maximum position, output of signal generator should be no higher than necessary to obtain an output reading. Use an insulated alignment screwdriver for adjusting.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	BAND SWITCH POS.	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
5	RMA Dummy	To terminals "A" and "G" on ant. terminal strip	1500KC	BC	#82 on AM calibration strip.	Across voice coil	A15	Adjust for maximum output
6	"	"	"	"	Tune for maximum output.	"	A16, A17	Adjust for maximum output
7	"	"	600KC	"	#15.5 on AM calibration strip.	"	A18	Adjust for maximum output. Repeat Steps 5, 6 & 7 until no further improvement can be made.
8	"	"	16MC	Band "C" (2 positions from full counter-clockwise)	#84 on AM calibration strip.	"	A19	Adjust for maximum output
9	"	"	"	"	Tune for maximum output.	"	A20, A21	Rock tuning cap. and adjust for maximum output.
10	"	"	18MC	"A" (fully counter-clockwise)	#94.5 on AM calibration strip.	"	A22	Adjust for maximum output
11	"	"	"	"	Tune for maximum output.	"	A23, A24	Rock tuning cap. and adjust for maximum output.
12	"	"	15MC	"	#7.5 on AM calibration strip.	"	A25	Adjust for maximum output
13	"	"	"	"	Tune for maximum output.	"	A26, A27	Rock tuning cap. and adjust for maximum output. Repeat Steps 10, 11, 12 & 13 until no further improvement can be made.
14	"	"	12MC	"B" (1 Position from full counter-clockwise)	#91.5 on AM calibration strip.	"	A28	Adjust for maximum output
15	"	"	"	"	Tune for maximum output.	"	A29, A30	Rock tuning cap. and adjust for maximum output.
16	"	"	9MC	"	#6.5 on AM calibration strip.	"	A31	Adjust for maximum output
17	"	"	"	"	Tune for maximum output.	"	A32, A33	Rock tuning cap. and adjust for maximum output. Repeat Steps 14, 15, 16 & 17 until no further improvement can be made.
18	2 - 150Ω carbon res.	Each side in series with 150Ω to FM dipole terminals.	108MC	FM	#83.5 on FM calibration strip.	"	A34	Adjust for maximum output
19	"	"	"	"	Tune for maximum output.	"	A35, A36	" " " "